

ABSTRACT

[0063] A pixel cell having a reduced potential barrier near a region where a gate and a photodiode are in close proximity to one another, and a method for forming the same are disclosed. Embodiments of the invention provide a pixel cell comprising a substrate. A gate of a transistor is formed at least partially below the surface of the substrate and a photodiode is adjacent to the gate. The photodiode comprises a doped surface layer of a first conductivity type, and a doped region of a second conductivity type underlying the doped surface layer. The doped surface layer is at least partially above a level of the bottom of the gate.